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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,654	03/15/2004	Hul-Chun Hsu	OP-093000099	8584

7590 01/10/2006  
Yi-Wen Tseng  
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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3753

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PHCn

<b>Office Action Summary</b>	Application No. 10/799,654	Applicant(s) HSU, HUL-CHUN	
	Examiner Tho v. Duong	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Receipt of applicant's amendment filed 10/26/2005 is acknowledged. Claims 1-8 and 11-13 are pending.

#### ***Response to Arguments***

Applicant's arguments filed 10/26/2005 have been fully considered but they are not persuasive. Applicant's argument that Ernst's powder wick is not attached to the lid but only edges contact to the lid, has been very carefully considered but is not deemed to be persuasive. Applicant is reminded that drawing is also a part of the disclosure, which can be used to teach or disclose as a prior art. Figure 1 of Ernst discloses that the wick (14) abuts on the bottom lid (18). Furthermore, according to the Merriam Webster's Collegiate Dictionary 10<sup>th</sup> Edition, "attach" is defined as to bring (oneself) into an association. Therefore, the wick (14) is reasonably to read as attached to the bottom lid.

In view of the cancellation of claims 10-11, the objection of the drawing is now withdrawn.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2,5-7,12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ernst et al. (US 4,565,243). Ernst discloses (figures 1-3) a heat pipe having a pipe member (12) and a bottom lid (18) covering a bottom end of the pipe member; a wick structure comprising at

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least one woven mesh (screen 16,22,24,26) attached to an internal sidewall of the heat pipe and a sintering powder (14) attached partially to an internal surface of the bottom lid; a top lid (20) comprising a top end of the pipe member; a support member (36) installed in the pipe member to press the woven mesh (screen 16) towards the internal sidewall; the woven mesh (screen 16,22,24,26) is integrated (molded) with the sintered powder, wherein the woven mesh (22,24,26) extend over the internal end surface of lid (18) and the wick structure (14) is attached and adhered to bottom corner of the heat pipe. Regarding claim 6, Ernst discloses that the bottom lid (18) is flat and having a planar external surface, which is capable of being in contact with a heat source as desired. Furthermore, since the lid (18) is located in the evaporation region, and the evaporation region is inherently in thermal contact with a heat source. Since the evaporation region is located at an end region of the heat pipe, the heat pipe is reasonably considered as an end surface absorbing heat pipe.

Note: the subject matter that a heat source mounted on a bottom lid of a heat pipe is not inventive. See Mochizuki et al (US 2003/0066628A1) or Sarraf (US 6,793,009).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ernst et al. in view of Connors et al. (US 6,907,918). Ernst substantially discloses all of applicant's claimed

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invention as discussed above except for the limitation of a filling tube on top lid and a sealing mean to seal the filling tube. Connors discloses (figures 1 and 5) a heat pipe having a filling tube (36) with sealing means (pinched off) extending through the top lid for the purpose of loading a working fluid inside the heat pipe. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Connors' teaching in Ernst's heat pipe for the purposing of loading a working fluid inside the heat pipe.

Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ernst in view of Low et al. (US 3,789,920). Ernst substantially discloses all of applicant's claimed invention as discussed above except for the limitations of a spiral support structure or a pressing board. Low discloses (figure 1) a heat pipe having a pressing board (16) having a spiral shape pressing a wick (14) lined inside of the heat pipe for the purpose of retaining the wick on the internal surface of the heat pipe. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Low's teaching in Ernst's heat pipe for a purpose of retaining the wick on the internal surface of the heat pipe.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

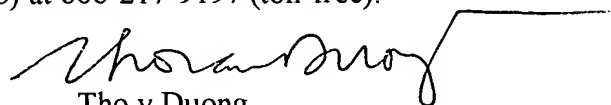
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho v Duong  
Primary Examiner  
Art Unit 3753

TD

TD

January 5, 2006